

inct species of much more considerable size? This supposition is probable enough; but it would be perhaps premature to establish at the present time a new specific form; and before inscribing it in our systematic catalogues, it seems to me more prudent to wait till new researches shall have produced some parts of the skeleton belonging to adult birds, which will inform us more exactly as to the proportions of our British Pelican.

We know at what geological epoch most of the mammals whose remains are found buried in the drift have appeared; we know also the epoch at which some of them have ceased to exist. With birds it is unfortunately not thus; the materials of study we have at our disposal are not yet sufficient to let us reconstruct the entire history of the species of which we can determine the history during the "quaternary" period. Has the ornithological population of this epoch, contemporary with the first ages of man, having been submitted to the same influences as the mammalian fauna, undergone analogous modifications? The little we at present know of it inclines to make us think so; for we know that at the epoch when the caves were filled up many of our birds already existed in large numbers. Others, such as the Snowy Owl (*Nyctea nivea*) and the Willow-Grouse (*Tetrao albus*), have gradually retired towards the north; others, again, have at last disappeared, as proved by the remains of the large Crane discovered in the caves of the Dordogne*. The remains collected in the peat-bogs of Cambridgeshire seem to indicate facts of the same order; for by the side of the Swan, the Duck, the Grebe, the Bittern, and the Coot we find a Pelican of gigantic stature, which seems to belong to a species different from those which represent this genus in our actual fauna, and has lived in England along with the Great Irish Elk, the Urus, and perhaps even with the Tichorhine Rhinoceros.

XXXI.—Notes on Various Indian Birds.

By R. C. BEAVAN, Bengal Staff Corps, C.M.Z.S.

[Continued from p. 181.]

772. *CROCOPUS PHENICOPTERUS*. Bengal Green Pigeon.

I found this species tolerably abundant in the Maunbhoom

* [Cf. Ibis, 1866, p. 414.—ED.]

district in 1864-65 ; at least I presume it must have been this, and not *C. chlorogaster*, Blyth, since Dr. Jerdon mentions that Col. Tickell procured it in the same tract of country (as that about Phuteeala, a village near Ambekanuggur, in Maunbhoom) where I observed it in February 1865, in small flocks of seven and eight. I found that Dr. Jerdon's description of the specific differences between the two species was not sufficient without having specimens of both by one, or minute enough to enable one to distinguish between them. I copy the following from my note-book :—

“Irides blue, surrounded by carmine, which gives a purplish hue to the eye where the two colours meet. Feet light yellow, claws pale blue. Bill horny white. The note is a kind of warbling whistle (it may be syllabled “teeu-toi-toi-tecu-u”) uttered slowly and with distinctness, generally when two or three are seated near each other at the top of some shady fig or other tree in fruit.”

I have found them common throughout the hills bordering the Grand Trunk-road from Rancegunge upwards. In Maunbhoom they generally frequent the same kind of cover ; and when once one finds out a tree in fruit which is frequented by them, it may be visited day after day, and each visit will be rewarded by one or two specimens, which are highly esteemed for the pot. Each flock seems to frequent a certain number of trees, such as the peepul, banyan, or other *Fici* when in fruit ; and when disturbed from one, they fly off to the next, thus taking them all in turn. The species breeds in Maunbhoom, where I procured several specimens of the eggs in April 1865. They are of course white, two in a nest, and differ from ordinary Pigeons' eggs in being more blunt and rounder at the ends. This species also occurs sometimes about Umballah, according to the late Dr. Scott.

774. OSMOTRERON BICINCTA. Orange-breasted Green Pigeon.

I met with this beautiful species in some abundance in the hilly and forest-covered parts of the Maunbhoom district, especially near Ambekanuggur in December 1864, and, in January 1865, among the Jubee Hills. It was tolerably common there in the

well-wooded hilly country, in flocks of five and six; and the following are the particulars of a male killed at Beerachalee on the 26th March 1865, which, in dimensions, somewhat exceeds that described by Dr. Jerdon. The irides were bright blue, approaching to purple, surrounded by an orange rim. Length very nearly 12, wing 6·125, tail 4·5, bill, from front, ·625, extent 19·75. This species is generally found feeding on the pulpy and orange-coloured fruit of the *Strychnus nux-vomica*, which grows abundantly in this part of Maunbhoom, and affords sustenance to many of the wild Pigeons. I fancy that this species is only to be met with in certain spots, and that its range is confined to these; for I never had observed it in any other part of India. It doubtless breeds in Maunbhoom; but I never observed the nest.

778. SPHENOCERCUS SPHENURUS. Kokla Green Pigeon.

At Darjeeling in 1862 I procured four specimens, and might have got many more, as it was rather abundant in Sikkim. I have since procured it at Simla, where it is said to be not uncommon near the station, and I have heard one singing late in May, 1866, near the house. I have seen them near the gardens of Annandale on several occasions. One killed June 2nd, 1866, measured as follows:—Length 13·5, wing 7·24, tail 6·125, tarsus ·812, bill, from front, ·812, spread of sole of foot 2. The legs are coral-red, with white soles, and claws of a bluish-horny tinge. The base of the bill at the nostril is of a most beautiful azure-blue, its tip horny-blue, the orbits of a darker blue, and the irides with a bright blue ring, surrounded by another ring of pinkish orange. It has a beautiful warbling kind of song, which is exceedingly musical.

The female appears to differ from the male in being a trifle smaller, and in having the whole upper parts green without any maroon on the shoulders or back, or any bright yellow on the head, breast, or under tail-coverts. There is more green also mixed with the yellow, where it does occur, than in the male, and the female is altogether a much less handsome bird. In the male the top of the head, the breast, and belly are of a golden greenish-yellow; the maroon colour

extends from shoulder to shoulder quite across the back, and between it and the yellowish-green of the back of the neck the colour is ashy. Lower down the maroon gradually blends into a dark leaf-green, which extends to the tail. The primaries, however, are dark slaty-blue, almost black, the outer webs of the quills as well as the secondaries being slightly edged with yellow. The vent and flanks in both sexes are of green and yellow mixed; and the under tail-coverts in the male are very pale cinnamon, while in the female they are yellow with green in the middle. The inner surface of the wings and the tail-feathers are slaty-blue in both sexes. The specimens obtained at Simla, 7th June, 1866, measured in the flesh as follows:—

	Length.	Wing.	Tail.	Bill from front.	Tarsus.	Spread foot.
♂..	13·125	7	5·125	·875	·75	2
♂..	13·125	6·875	5·25	·875	·8125	2
♀..	13	6·875	5·125	·8125	·75	2

779. SPHENOCERCUS APICAUDUS. Pin-tailed Green Pigeon.

A single specimen was procured by me at Darjeeling in 1862; but I much regret I can find nothing recorded about it in my note-book, except that I got it in the valley of the Great Rungeet River.

780. CARPOPHAGA SYLVATICA. Green Imperial Pigeon.

I procured a fine specimen of a female of this magnificent species at Kyodan, on the Salween River in Burmah, on the 17th of August, 1865. Its length was 17, wing 9, tail 6·75, tarsus 1·25, bill, from front, 1, extent about 27. Irides blood-red. Orbits pearly-grey, with a red edging. The bill had both mandibles of a greyish-white colour, more horny towards the tip, and pinkish over the nostrils. Claws slate-coloured. I also procured one specimen of this species in the Maunbhoom district, in 1864 to the best of my recollection.

782. ALSOCOMUS PUNICEUS. Purple Wood-Pigeon.

Like Colonel Tickell, I found this species in the Maunbhoom district, in 1864, in small parties of four or five, in the thick and high trees, which, in that district, are invariably found growing along the banks of rivers; and my first specimen was procured

by the banks of the river Cossye at Ambekanuggur. The species appears to feed almost entirely on the fruit of the *Strychnus nux-vomica*, and, as mentioned by Dr. Jerdon, on the "jmoon" (*Eugenia jambolana*). It is excessively wary, and can seldom be procured, except by a flying shot as the birds dart out of the thick foliage on hearing a step below them on the ground. Dr. Jerdon's dimensions are apparently too large; of two specimens measured by me in the flesh one was only 14.5 in length, and the other but 14. The bill is purple at the base, with a greenish horny tip, approaching to white in some. Claws white. Legs and feet a light pink or darkish flesh-colour.

787. *PALUMBENA EVERSMANNI*. Indian Stock-Pigeon.

Although I have never obtained this rare Pigeon myself, I believe it was first discriminated at Umballah by my late valued friend Dr. Scott, who had previously resided for some time at Hansi, and told me he had seen them at the latter station in the first instance, and then informed either Dr. Jerdon or Mr. Blyth of their nearly annual occurrence also at Umballah. Indeed, although during my stay there in 1866 none were to be seen, some I believe had been killed there the year before, and Dr. Scott promised to look out again anxiously for their arrival, and let me know. But, unfortunately, he succumbed to the climate, as has been already recorded in these pages (*suprà* p. 134), before he had time to verify these points. The native name is "Cummer-kooller," not "kalla" as Dr. Jerdon has it.

792. *TURTUR RUPICOLUS*. Ashy Turtle-Dove.

The specific name given to this bird by Pallas is decidedly a misnomer; for about Simla, where I found it in tolerable abundance in 1866, it frequents trees only, so far as my experience goes, and I never saw one perch on a rock. Dr. Jerdon imagines that it is only a winter visitant to the hills; but I found it there in May and June, and it evidently breeds there. At that time of the year it is of course always in pairs, whereas the next species, to my knowledge, is generally in small parties or flocks. A very fine specimen in the flesh, killed at Simla on 10th May, 1866, measured:—Length 13, wing 7.375, tail 5.25,

tarsus .875, bill, from front, .638, spread of foot 2, extent 20. Irides bright orange. Bill and legs lake-red, the latter brighter than the former, and with dark claws. The vent and lower tail-coverts are pure white (which perhaps may become light grey as the plumage gets older). The neck-patch consists of parts of five rows of feathers, and is not seen from the outside to meet on the nape. The under wing-coverts are slaty-blue. I invariably observed the species either singly or in pairs. It much resembles *T. meena*, and seemed to me at first sight to be that species; but the dimensions of the specimens agree better with Dr. Jerdon's description of *T. rupicolus*, and the locality where I procured them affords another reason for considering them to be such.

793. *TURTUR MEENA*. Rufous Turtle-Dove.

My first acquaintance with this species was made when marching in 1859 on treasure-escort from Julpigoorie to Rungpore, in the Rungpore district of Lower Bengal, where we came across large numbers of them in flocks frequenting the summits of the tallest bamboos, and they formed no unwelcome addition at that time to the table of myself and a brother officer. I have since procured the species in Maunbhoom, where I think it breeds, as its presumed egg was brought to me at Beerachalee in the spring of 1865; but the bird itself was not very abundant, and was probably migratory in that district. Dr. Jerdon is, I think, in error when he says that this bird "does not breed in the plains;" and I doubt not that the birds mentioned as "newly caught" by Mr. Blyth, from the Calcutta Bazaar*, were procured by natives, either from this district or the Darjeeling "terai;" and in that it "goes to the hills to breed" from the last-named locality, I have no doubt that Dr. Jerdon is right.

794. *TURTUR CAMBAYENSIS*. Little Brown Dove.

This is tolerably common in the Maunbhoom district, where it breeds, and is called by the natives "*Tirqua ghughoo*." I also observed it rarely at Umballah in 1866.

* In 'The Ibis' for 1867 (p. 12, note) Mr. Blyth refers to another authority some remarks of my own on birds from the Rajmehal hills being sold in the Calcutta Bazaar.

795. *TURTUR SURATENSIS*. Spotted Dove.

Abundantly distributed throughout Bengal, and common in the Maunbhoom district, where it is called "Telia ghughoo" by the natives. It is found also throughout the country up to Umballah, and was noticed by me on several occasions frequenting the low valleys of the Himalayas, both at Darjeeling in 1862, and Simla in 1866. Of the Burmese species, *Turtur tigrinus*, Temm.*, I find a record of a fine specimen procured by me at Moulmein, on Sept. 7, 1865. Length 12, wing 5·625, tail 5, tarsus ·812, bill, from front, ·6875. Irides vinaceous-white, inclining to pink.

796. *TURTUR RISORIUS*. Common Ring-Dove.

Quite as commonly distributed as the preceding species all over India, where it affords great sport for "griffs." to practise their shooting upon; and its flesh is not at all bad eating when one is hard up for food in camp, where "dove-pie" is a standing dish. In Maunbhoom the natives call it the "Dhōlee ghughoo." It breeds in this district, and its eggs are very frequently discovered both by men and birds of prey; in fact, when natives first begin to find out that a collector will pay for eggs brought in, they invariably bring in heaps of those of this species as being the most easily procured. A specimen killed in Maunbhoom on 5th March measured in length 12, wing 6·5, tail 5·5. Irides blood-red.

797. *TURTUR HUMILIS*. Red Turtle-Dove.

This is the rarest Dove in India, although found abundantly at certain seasons in certain spots. It is apparently a more migratory species than any of the others. I have observed it both in the Maunbhoom district and at Umballah, where it is decidedly rare.

798. *CHALCOPHAPS INDICA*. Bronze-winged Dove.

I procured this handsome bird first of all at Darjeeling in 1862, then at Barrackpore in 1864, and in the Andaman Islands in 1865 (*cf.* Ibis, 1867, p. 332). At Barrackpore I found it frequenting the densest bamboo thickets, generally feeding in their shade, and flying into them when disturbed. Near Dar-

[* *Cf.* Ibis, 1867, p. 150.—Ed.]

jeeling the species is only found in the warm beds of the rivers ; mine were procured in the Great Rungeet Valley, and they do not appear to go higher up the hills than the bamboo will grow, an elevation of about 1200 to 2000 feet.

799. *PTEROCLES ARENARIUS*. Large Sand-Grouse.

Found in some numbers about Umballah at certain seasons ; but when I was there (November 1866) they had not arrived. However, some two score were sent down to the late Dr. Scott by a civil engineer in railway employ at Jullunder, from which I made the following notes :—

Length.	Wing.	Tail.	Tarsus.	Bill from front.	Bill from gape.	Extent.
♂ 14.5	8.6	4	1.0625	.5	.75	27
♀ 14.75	9	4.5	1.125	.5	.75	27

An albinoscent or *quasi*-albinoscent specimen (a presumed female) differs from the rest in being all over of a light fulvous colour, with the irides light grey instead of dark brown as usual : the belly is brown instead of black ; and the dark markings usual to the females on the upper parts are in this specimen of a faint brown hue.

Out of the forty originally sent, ten had expired on the road on arrival at Umballah ; but the rest were well and healthy, and out of these latter I selected a dozen, six of either sex, with the view of taking them with me to England for the gardens of the Zoological Society ; but two of them died before I reached Calcutta, and I therefore started from that port, on the 20th January 1867, with ten only, by the ship ‘ St. Lawrence,’ and, after a voyage of ninety-two days round the Cape of Good Hope, reached England about the end of April with only four left alive, which were deposited in the Zoological Gardens ; but they did not survive for any length of time. On the voyage they mostly killed themselves by jumping up and knocking their heads against the top of the box-cage I had constructed for them ; so that I hope this hint, to have a net or something soft stretched across the cage two-thirds of the height from the bottom, may enable future collectors to bring them home safely.

At Jullunder these birds are caught in nets by the natives in

great numbers, and are kept by the Europeans there and fattened for the table like Quails, being fed up for this purpose: they thrive there admirably in confinement. They are particularly heavy birds for their size, and strong in proportion. In fact I should call this the most muscular bird for its size that we have in India.

800. *PTEROCLES FASCIATUS*. Painted Sand-Grouse.

Procured by me at Morar, near Gwalior, in December 1866. The following dimensions are from specimens in the flesh:—

	Length.	Wing.	Tail.	Tarsus.	Spread foot.	Bill from front.	Bill from gape.	Extent.
♂	11·25	6·875	3·125	·9375	1·125	·5	·5625	22·5
♀	10	6·625	2·375*	·9375	·9375	·5	·5625	20·75
♂	10·5	6·25	2·751	1		·5625	·6875	19
♀	10·5	6·5	2·875	1		·5	·5625	20·5

Bill dirty red, legs greenish-yellow in the male, dark green in the female, orbit light greenish-yellow in both sexes; the tarsus is feathered down to the foot in front, but bare behind. The dimensions of the first male somewhat exceed those given by Dr. Jerdon. The late Dr. Scott received a pair killed within twenty miles of Umballah from an active shikarry, and, writing under date August 2nd 1867, says:—"This is the first time I have heard of this species occurring in the neighbourhood of Umballah; and, together with *P. arenarius* and *P. exustus*, it makes the third species of the genus found in that locality out of only four which are known to inhabit India."

802. *PTEROCLES EXUSTUS*. Common Sand-Grouse.

Not only this, but all Sand-Grouse in India are known commonly to sportsmen as "Rock-Pigeon." I found this species abundant about Umballah and Morar, near Gwalior, in the cold weather. The following are the dimensions of a male killed at Umballah on 16th November, 1866:—Length 13; wing 6·5; tail 3·875; tarsus 1; bill, from front ·5, from gape ·625; extent 21·75. This agrees fairly with Dr. Jerdon's measurements, except in the tail, which he makes "5½ to 6," surely an error.

A specimen from Morar, 29th December, 1866, measured:—Length 11·75; wing 6·25; tail 3·75; tarsus ·9375; bill, from

* Slightly damaged.

front .4375, from gape .5625 ; extent 20. The bill and orbital skin in this species are blue.

803. *PAVO CRISTATUS*. Common Peacock.

This bird is so universally known that further description is almost useless, and I need only mention a native idea regarding it—that in the jungles frequented by tigers Peafowl are sure to abound ; in fact the sight of one in the jungle is a pretty sure sign for some one in the party to say, “ You may now look out for a tiger.” I doubt myself if there is really any connexion between the two except that Peafowl are very wary birds, and perhaps the tiger is naturally attracted to them by their quickness in showing the approach of an enemy. On one occasion, when passing through the Maldah jheel in a boat, and being hard up for food, I saw some Peafowl on the shore and wanted to land to kill one ; but the boatmen were afraid of accompanying me, on account of tigers ; so I had to go by myself, when I shot a fine Peacock and ate nothing else for some days, until I was quite tired and sick of it.

Pavo muticus I have seen in captivity at Moulmein, where my friend Colonel Brown had a young one which used to walk at will about the house and grounds, and knew as well as possible the hours for meals, at which it was a regular visitor ; but it invariably waited until fed, and never attempted to steal from the table. This bird, I think, was afterwards sent home to the gardens of the Zoological Society of London.

804. *LOPHOPHORUS IMPEYANUS*. Monaul Pheasant.

This gorgeous bird is found in the interior of Sikkim and on the higher hills beyond Simla ; but I never came across it in the wild state, although I procured several skins from native shikarries.

805. *CERJORNIS SATYRA*. Sikkim Horned Pheasant.

I first met with this handsome bird near Darjeeling, when on the march from that station to Mount Tongloo in 1862, but failed to secure a specimen, although I heard their booming call both morning and evening. Some fine specimens of this species were sent down by Tchebu Llama for exhibition in Calcutta at the Agricultural Show held there in 1865, and, I fancy, were sent on thence to England*.

* The dimensions of this species are given by Lieut.-Colonel Tickell, in N. S.—VOL. IV.

806. *CERIORNIS MELANOCEPHALA*. Simla Horned Pheasant.

Not uncommon in the interior beyond Simla. On the 10th June, 1866, I made the following note on a fine male shot by a friend at the beginning of that month which was forwarded for my inspection, and which had the gular skin and horns when first killed, according to his account, like "scarlet velvet." When the specimen reached me this had dried up, and then the soft parts had the usual appearance of having been purple in the middle, edged with blue. I never met with this bird in a wild state, as I was too ill during my stay at Simla to go out after them.

808. *PUCRASIA MACROLOPHA*. Pukras Pheasant.

Specimens were procured by me in 1866 in some numbers from Captain Begbie, who lived some forty miles from Simla, in the interior, at Kotgurh, near which, I believe, he employs natives to capture them; but the bird was never observed wild by me.

809. *PHASIANUS WALLICHI*. Cheer Pheasant.

This, our Indian representative of the English Pheasant, is not nearly such a handsome bird as that. I procured a specimen in the flesh at Simla in 1866, which was shot by a native a short distance from the station, but have not recorded anything further about it.

810. *GALLOPHASIS ALBOCRISTATUS*. White-crested Kallege Pheasant.

This species is tolerably abundant above Simla, where I procured several specimens in the flesh in 1866, and made the following notes at Mahasoo, October 1866:—

	Length.	Wing.	Tail.	Tarsus.	Spread foot.	Bill, from front.	Bill, from gape.	Extent.
1. ♂	25·5	9	10·75	2·75	3·375	1	1·25	27·5
2. ♀	21·5	8·25	8·25	2·5	3	1	1·25	24·5
3. ♂	26	8·75	11	2·75	3·25	1·0625	1·375	29

the last being a remarkably fine male in good plumage.

his able paper in the 'Field' newspaper of April 7th, 1866, p. 294, on "Our two species of *Ceriornis*," as follows:—♂. Length 24 to 27 inches, wing 10 to 11, tail 9 to 11, tarsus $3\frac{1}{2}$, middle toe $2\frac{3}{4}$, bill 1 inch.

Dr. Jerdon mentions the singular drumming noise made by the male. With respect to *Phasianus lineatus*, which is, in my opinion, a true Kallege, I may mention that the Burmese take advantage of this habit of the birds, and by imitating it with a rough kind of machine catch numbers of the latter species. It is like the crow of a cock, a kind of challenge uttered by one male to excite another to a battle—in “defiance of his fellows.”

811. GALLOPHASIS MELANONOTUS. Sikkim Kallege Pheasant.

Common about Darjeeling at all elevations between 2000 and 7000 feet, and also occurs abundantly in the interior of Sikkim. I procured feral specimens of this bird, on one occasion in a ravine below Punkabarry, at the very foot of the hills, on another in Major Wardroper's plantation at Darjeeling (about 6000 feet), and found them abundant at Rinchingpoong in Sikkim (from 5000 to 6000 feet), where, when put up by a dog, they took to trees and were easily shot. They roost on the same bough every night; and consequently the exact locality is easily found by the number of white droppings which accumulate on the ground below. They were generally met with in pairs or small parties of three and four.

812. GALLUS FERRUGINEUS. Red Jungle-fowl.

I found this bird common about Julpigoorie and the foot of the Himalayas, and also in the valleys in the interior of the hills beyond Darjeeling, having killed specimens in the Rungeet valley near that station, and observed it in the interior of Sikkim, both at Namtchi and at Rinchingpoong; but it is not so abundant there as it is throughout the Sikkim and Bhootan terai, or strip of jungle-country at the foot of the hills. I also found it far from uncommon along the banks of streams in the Maunbhoom district in 1864-65, and under the hills near Umballah in 1866, whence I procured a pair in the November of that year.

	Length.	Wing.	Tail.	Tarsus.	Spread foot.	Spur.	Bill, from front.	Bill, from gape.	Extent.
♂	22·5	8·95	10·5	3·75	3·25	1	·6875	1·812	
♀	24	8·5	10·5	3·75	3·25	1	·6875	1·812	27·5

Both of these specimens weighed 2 lb. after being gutted. I

have also procured examples in the valley of the Salween River, in the Tennasserim provinces of Burmah. The best shooting I ever got at this species was at Julpigoorie, where the nullas, or beds of streams, in the neighbourhood, which were common in that country, and filled with jungle, gave cover to very many of these birds; and when put up by beaters they fly out at a considerable pace, and require a good knock-down blow to bag them. They run, too, a great deal; and in the Maunbhoom district the native shikarries used to get many of them by placing corn near some water in the half-dried-up beds of the streams, and then shooting them when they came there both in the early morning and evening both to eat and drink.

815. *GALLOPERDIX LUNULOSA*. Painted Spur-fowl.

I came across this handsome Spur-fowl for the first time in the Maunbhoom district, where it is, to the best of my belief, the only species known, although one of my European assistants told me he had on one occasion shot there a "kind of hybrid—half a partridge, half a fowl," which might have been *G. spaldicea*; but I never again met with it myself. The specimen in question was unfortunately cooked and eaten before I had a chance of examining it personally. This species is tolerably abundant in Maunbhoom. It affects exclusively the stony hills and jungle at their base. It is seldom seen, except when beating for large game, such as Bears, Tigers, Leopards, or Deer. It dodges about with great facility, like a Rat or Rabbit, when some distance off, amongst the rocks, and, as it runs with the greatest ease, is not easily flushed; when it does rise, it flies but a short distance. In habits it is much more like a Fowl than a Partridge.

816. *TETRAOGALLUS HIMALAYENSIS*. Himalayan Snow-Cock.

Of this fine bird I only procured a single specimen, in the shop of a native dealer in Simla in 1866, and have never seen a wild living specimen of it, although in the skin they are, apparently, not uncommonly brought into that station by native shikarries, chiefly in the winter months.

817. *LERWA NIVICOLA*. Snow-Partridge.

I was unfortunately not well enough, when at Simla in 1866,

to penetrate into the haunts of this species, but procured a pair there from the shop of a European trader, who had bought them from the native shikarries in winter. I had to pay for the same at the rate of 8s. a pair, which seems an exorbitant price to one in England, but is thought little of by the Simla ladies, who are the principal purchasers of such skins for their hats.

818. *FRANCOLINUS VULGARIS*. Black Partridge.

This handsome and game-looking bird occurred to me at Julpigoorie, on the Bhootan terai, in 1860, in the Maunbhoom district* and at Maldah, in Lower Bengal, in 1864, at Kurnaul and Umballah in 1865, and at Kotgurh, near Simla, in 1866. In this last locality it was procured by a friend. It is not the commonest Partridge in India—but where it does occur affords by far the best sport, especially with dogs; and for the table its flesh is infinitely superior to that of the Grey or Common Partridge. Its occurrence in the Maunbhoom district is apparently unknown to Dr. Jerdon; and as I have since procured the next species, I can with certainty say now that I did not confound those found in Maunbhoom with that species. A female specimen in the flesh, shot at Pathurkhuta, February 19, 1865, measured in the wing 5·75, and in the length of the tarsus 1·625. It is called by the natives of Maunbhoom the “Chee-teerce Kunniah,” probably from the call, which I should syllable “tŭk, tēē-tēē-tēē-rēē-tēē.”

819. *FRANCOLINUS PICTUS*. Painted Partridge.

This rare bird occurs plentifully around Morar, in the North-west Provinces, near Gwalior. It inhabits the low jungle-covered hills in that vicinity, and does not appear to frequent the standing crops, or such places near water as are invariably found to be the habitat of the Black or preceding species. On first seeing fresh specimens of this bird it struck me as being somewhat like the female *F. vulgaris*, or more like what I should imagine would be the result of a cross between a female of that species† and a Jungle-Cock (*Gallus*, sp.). The legs are of a

* Cf. Ibis, 1867, p. 157.

† It might easily be mistaken for this bird, were it not for its peculiar reddish-brown head.

bright orange-red, the bill horny black; and the tail is black, not "deep brown" as in Dr. Jerdon's description. It is very difficult to distinguish between the sexes; and the only way I could possibly do it without dissection was by observing the feathers of the breast, the bars on which I found in the male to be interrupted, and in the female continuous across. The bill may perhaps be more correctly described as dark above and fleshy horn-colour beneath; and the legs are dull orange. The dimensions of both sexes, killed at Morar, are as follows:—

	Length.	Wing.	Tail.	Tarsus.	Spread foot.	Bill, from front.	Bill, from gape.	Extent.
♂	12·5	5·375	2·875	1·5	1·75	·75	·875	18·75
♀	12	5·25	3·125	1·5	1·75	·75	·875	18·25

In the wing-measurement I have only taken the length of the primary feathers, the tertials exceed them by ·5 or ·75.

820. CACCABIS CHUKAR. Chukor Partridge.

This bird is very generally found on the hills about Simla; and the first time I saw wild specimens was in April 1866, when, marching up to that station from Umballah by the new cart-road, I put a pair up off the road-side. I have since had numerous skins sent to me from Kotgurh, a small village in the interior, some fifty miles beyond Simla, where numbers are annually snared by the natives, who sell their skins to the European inhabitants of Simla. They seem to frequent tolerably open hill-sides where *Cacti* abound. Tame specimens are frequently seen in most of the up-country stations, as they are easily kept, and become great pets.

822. ORTYGORNIS PONTICERIANA. Grey Partridge.

This is emphatically the *common* Indian species, and, although not found on the alluvial soil of Lower Bengal, occurs abundantly directly we reach the uplands of the Maunbhoom district, where the natives catch numbers in "*phans*," or upright nooses into which the wild birds are attracted by a caged one. I have also shot them near Colgong, on the Ganges, and all along the hilly portion of the Grand Trunk road from Raneegunje, up beyond the mountain of Parisnâth. They breed in Maunbhoom; and their eggs are of a cream-colour and unspotted. The call

may be syllabled "thŭk-thŭk-thŭk-pătēlā-pătēlā-pătēlā." With regard to its perching on "low trees and shrubs," as stated by Dr. Jerdon, I would refer the reader to Dr. Adams's statement ('Wanderings of a Naturalist in India,' p. 71). When found near villages, this species has got the unenviable reputation of feeding on human faeces; but I must say, with Dr. Jerdon, that this accusation is probably unjust; for I never saw it do so, or found it to be the case.

823. ORTYGORNIS GULARIS. Kyah Partridge.

I have found this fine Francolin plentifully about Caragola Ghaut, on the Ganges, where Dr. Jerdon and I had good sport with it. I have observed it also at Rajmehal in sandy jungle-covered "*churs*" in the river, and near Colgong, on higher ground or hedges, when the river was flooded in October. I have also flushed what I am nearly sure was this species in wooded nullahs in the terai, near Julpigoorie. It is undoubtedly our largest Indian Partridge, and gives grand sport. Dr. Jerdon's account of its habit is very good.

824. ARBORICOLA TORQUEOLA. Black-throated Hill-Partridge.

I have seen this bird only on the higher hills near Darjeeling and in Sikkim, where, however, according to my experience, it is far from common. On one occasion, in 1862, I observed some examples in thick dwarf bamboo on my way up to Mount Tongloo, at an elevation of about 8000 feet.

825. ARBORICOLA RUFOGULARIS. Rufous-throated Hill-Partridge.

This species, on the contrary, is much more abundant in Sikkim, and near Darjeeling inhabits a lower zone than the preceding, of from 4000 to 8000 feet in elevation. It is found generally in coveys*, and numbers are captured by the Lepchas, by calling them within shot, and taken into the station of Darjeeling for sale. These birds frequent such dense cover, that

* This is my experience of them, the reverse of what Mr. Blyth says (Ibis, 1867, p. 159) is their habit. I well remember noticing the fact, because this was the first Indian Partridge I had seen associating in any numbers.

shooting them in any other way is almost out of the question. I procured a single skin at Simla.

826. *PERDICULA CAMBAIENSIS*. Jungle Bush-Quail.

I have come across this pretty little game-bird in the Maunbhoom district, where it is tolerably abundant, and called by the natives "Juhar," and by the Southals in particular "Auriconnai." It occurs also in the jungles about Umballah, in the North-west Provinces, and in the Punjab; but it is not found in the swampy lowland of Lower Bengal. Dr. Jerdon's description of the difference between the sexes is not at all satisfactory, as I have previously noticed (*cf.* Ibis, 1867, p. 160); for I have found by dissection that some females were marked as he describes the males only to be, and *vice versa*.

Specimens shot at Morar, December 19, 1866, measured as follows:—

	Length.	Wing.	Tail.	Tarsus.	Spread foot.	Bill, from front.	Bill, from gape.	Extent.
A. ♂?	6·5	3	1·625	·9375	1·25	·4375	·5	10
B.	6·75	3·125	1·75	·9375	1·25	·4375	·5	10
C. (juv.)	6	3	1·5	·875	1·1875	·4375	·5	9·5

829. *COTURNIX COMMUNIS*. Large Grey Quail.

I have found this fine bird in almost every part of India that I have visited, but never in such numbers together as noticed by Dr. Jerdon. From twelve to fifteen brace is the most that I have been able to bag in an ordinary day's shooting—with Partridges, Hares, and so forth. Near Umballah they afford very good sport with a dog, and to my mind are the perfection of shooting of all birds of their size. They are frequently kept for the table, being fattened up in pits dug underground about Umballah and elsewhere. Both this and *C. coromandelica* occur in Maunbhoom.

831. *EXCALFACTORIA CHINENSIS*. Blue-breasted Quail.

I only once procured this bird (namely, at Maldah, in Lower Bengal, in October 1864, while out shooting), and was much taken with its extreme beauty and elegance. The legs were a bright orange-yellow.

832. *TURNIX TAIGOOR*. Black-breasted Bustard-Quail.

I procured this species sparingly near Barrackpore, in October

1864, and more abundantly in the Maunbhoom district, where it is not uncommon. The dimensions of a specimen procured on 5th March, 1865, are—Length 5·75; and no specimen that I ever got is, to the best of my recollection, equal in this respect to that given by Dr. Jerdon, “length about $6\frac{1}{2}$,” but I see that lower down on the same page he says, “length not quite 6 in. ;” so that the first measurement given is probably a misprint. In Maunbhoom the natives have an ingenious method of catching this species alive, much as is described by him; and they frequently keep the female birds for fighting-purposes.

833. *TURNIX OCELLATA**. Hill Bustard-Quail.

A single specimen was once procured by me near Namtchi, in Sikkim.

834. *TURNIX DUSSUMIERI*†. Larger Button-Quail.

This has been often shot by me in Lower Bengal and at Julpigoorie; but I have nothing further recorded of its range or habits.

835. *TURNIX SYKESI*. Button-Quail.

The late Dr. Scott, who sent specimens to the Montrose Natural-History Society, records this species from Umballah. It occurs frequently north of the hilly country about Mount Parisnâth, and in Maunbhoom occasionally, to the best of my recollection.

836. *EUPODOTIS EDWARDSI*. Indian Bustard.

I have lately received a fine pair of this large Bustard from my brother, Lieut. Reginald Beavan, of the 22nd Punjab Native Infantry, who shot the male near Morar, in Gwalior, and bought the female from some native trappers, who catch them in that neighbourhood and bring them into Morar for sale to the officers and others who like them as a delicacy for the table. At Umballah in 1866 I saw several alive, which Dr. Jerdon had brought there, and which, I think, had been captured near the desert-country about Hurriana or Suia; but what he did with them

* [*Lege T. pugnax*; cf. *Ibis*, 1867, p. 161.—ED.]

† [*Lege T. tanki*; cf. *Ibis*, *ut supra*.—ED.]

eventually I never learnt. They do not occur in a wild state about Umballah.

838. *SYPHEOTIDES BENGALENSIS*. Bengal Florikin.

I have only met with this bird when out in the Bhootan dooars after Rhinoceros, when with the 73rd Native Infantry at Julpigoorie in 1859. Numbers used on these occasions to be flushed from thick grass when beaten up by our advancing line of elephants; and the males in flying showed a good deal of white on the wing. I never met with it elsewhere.

OTIS TETRAX, Linn. Little Bustard.

This was, I think, originally determined as an Indian species by my friend the late Dr. Scott, who first told Mr. Blyth of its existence at Peshawur (*Ibis*, 1867, p. 163); he has repeatedly given me the same information, which I am glad to have this opportunity of making public.

840. *CURSORIUS COROMANDELICUS*. Indian Courier-Plover.

Of this species I procured a pair at Lallroo, near Umballah, on the 14th of November, 1866. Dimensions as follows:—

Length.	Wing.	Tail.	Tarsus.	Spread foot.	Bill, from front.	Bill, from gape.	Extent.
A. 8.75	5.75	2.375	1.9375	1	.8125	1.1875	19
B. 9.375	6.125	2.375	2.25	1.125	.875	1.25	21.5

Two shot at Morar, December 19, 1866, measured as follows:—

Length.	Wing.	Tail.	Tarsus.	Spread foot.	Bill, from front.	Bill, from gape.	Extent.
A. 9.5	5.75	2.25	2.1875	1.125	1	1.25	20
B. 9.125	5.375	2.25	2.125	1.0625	.8125	1.125	18.5

In this bird the legs look as if they had been enamelled or painted white, as though they had been made "beautiful for ever." The species is not uncommon in the cold weather at Umballah, frequenting chiefly ploughed land, in small flocks, but wary and difficult to get near. Seen more abundantly a month later at Morar, near Gwalior, where they frequent the open plain.

843. *GLAREOLA LACTEA*. Small Swallow-Plover.

I observed this species in some numbers on 16th February, 1864, on the sand-banks of the Damoodah River, on the out-

skirts of the Maunbhoom district. Swift-like, both in its flight and general aspect, I was much struck, I recollect, at the time, with this particularly chaste and elegant bird, which I never, before or since, recollect to have seen.

845. *CHARADRIUS LONGIPES*. Golden Plover.

I have found this species tolerably abundantly in the neighbourhood of Julpigoorie, but I do not recollect it at Maunbhoom. It is occasionally, I hear, found near Umballah.

847. *ÆGIALITIS PYRRHOTHORAX**. Lesser Sand-Plover.

Three specimens of this species were shot by me on the mud-banks of the Salween River, near Moulmein, on September 7th, 1865. Dimensions of one as then noted were—Length 7·25, wing 5, tail 1·875, bill, from front, 75, tarsus 1·25.

849. *ÆGIALITIS PHILIPPENSIS*†. Indian Ringed Plover.

I procured specimens at Ambekanuggur, in the Maunbhoom district, in December 1864, where also it was observed breeding in March by a late intimate friend, who gave me the information, as before recorded (P. Z. S. 1864, p. 376); but I did not see its nest myself, as stated by Mr. Blyth.

850. *ÆGIALITIS MINUTUS*. Lesser Ringed Plover.

I shot a pair out of a small flock which were feeding along the edge of a small tank near the Native-Infantry lines at Umballah in January 1866.

	Length.	Wing.	Tail.	Tarsus.	Bill, from front.	Extent.
A. . .	6·3	4·25	2·25	·875	·5	13
B. . .	6·5	4·5	2·5	·875	·5	13·5

The irides in both were reddish-brown, the legs flesh-coloured with a tinge of blue, the claws black, orbits bright yellow; bill black, yellow at the base.

852. *CHÆTUSIA GREGARIA*. Black-sided Lapwing.

A specimen was killed by me at Lallroo, near Umballah, on the 14th November, 1866; and this species is mentioned by the late Dr. Scott, who sent specimens from Umballah to the Montrose Museum.

* [*Lege* *Æ. mongolicus*; cf. *Ibis*, 1867, p. 164.—ED.]

† [*Æ. curonicus*, *fide* Blyth, *Ibis*, 1867, p. 164.—ED.]

Lallroo, November 14, 1866. Length 12; wing 8·125; tail 3·75; tarsus 2·5; spread foot 1·5; bill, from front 1·125, from gape 1·3125; extent 27·75. This specimen agrees with Dr. Jerdon's description of the species, except in the following particulars:—The head, instead of being "black," is ashy-grey with dark spots; the sides of the head and neck, instead of being "pale rufous," are ashy with a slight fulvous tinge; there is no "black" or "chestnut" at all on the abdomen, which, on the contrary, from the breast downwards, is pure white. Bill and legs black, and irides deep reddish brown.

853. *CHÆTUSIA LEUCURA*. White-tailed Lapwing.

A specimen now in Colonel Tytler's collection was procured by the late Dr. Scott at Babyn, near Umballah, in 1866; and he told me he did not think the figure of this species given in 'The Ibis' for 1865 (pl. x.) was a very good representation of the Indian bird.

855. *LOBIVANELLUS GOENSIS*. Red-wattled Lapwing.

Found abundant in the Maunbhoom district in 1864, and at Julpigoorie, in the Rungpore district of Lower Bengal, and generally almost everywhere in India. It is the "Tee-tee-du" of the Burmese; and of it a friend tells me:—"The Lapwing, in Burmese legends is one of the four animals which distress themselves unnecessarily. It is said to sleep on its back with its feet in the air, to prevent the sky from falling on the earth! The other three animals are the monkey, the Crane, and the earthworm. The monkey going to sleep in a tree comes down frequently (literally three times) during the night to feel if the earth is still in its place; the earthworm is so much afraid of devouring the whole earth that he spits it out again in the form of 'worm-casts'; and the Crane is so afraid of causing an earthquake when walking that he always treads very gingerly, as if stepping on eggs." This is a free translation made from a Burmese work, which at the least has the merit of showing that the Burmese must be a very observant people to notice the little everyday occurrences in nature which are here caricatured.

856. *SARCIOPHORUS BILOBUS*. Yellow-wattled Lapwing.

Procured in Maunbhoom in 1864, where it is rare, and again

at Umballah, November 14, 1866. The specimen from which the following dimensions were taken has the head of a dark brown instead of pure "black," as Dr. Jerdon says, with the bases of some of the feathers turning black. Length 10·5; wing 8; tail 3·5; tarsus 2·4375; spread of foot 1·125; bill, from front 1·125, from gape 1·0625; extent 25·5.

858. *ESACUS RECURVIROSTRIS*. Large Stone-Plover.

Procured by the late Dr. Scott near the Jumna River, in the Sewalik Hills, and sent by him to the Natural-History Society of Montrose.

859. *ÆDIGNEMUS CREPITANS* *. Stone-Plover.

Not uncommon in the uplands of Maunbhoon, where I found them breeding in April (*Cf.* P. Z. S. 1864, p. 377). According to my experience they lay but two eggs, although they may possibly lay three as stated by Dr. Jerdon. I have only observed this species singly or in pairs, never in flocks as described by him.

863. *GRUS ANTIGONE*. Sarus† Crane.

Very common in some parts of India, more especially in the neighbourhood of Umballah. I have also noticed the species at Julpigoorie, and near Barrackpore, both stations in Lower Bengal, and more rarely in Maunbhoon.

866. *ANTHROPOIDES VIRGO*. Demoiselle Crane.

Generally called both by natives and European sportsmen in India the "Coolen." I saw large flights of them on the banks of the river Teesta, near Julpigoorie, in 1859, and also passing overhead when on Mount Tonglu in 1862, on their periodical migration from the uplands of Thibet to the plains of India. They keep up a peculiar call when in flight, by which they can easily be distinguished.

867. *SCOLOPAX RUSTICOLA*. Woodcock.

A specimen was sent to me in 1866 by Mr. Davis, of the Police, from Burmah, who shot it in the cold weather of 1865, at Thatone, near Moulmein. This is apparently the first record

* [*Æ. indicus*, Salvadori. *Cf.* Ibis, 1866, p. 415.—ED.]

† *Potius* "Siris."

of this species occurring so far to the south as the Tenasserim provinces of Burmah. I myself saw them appear regularly every evening at Rinchingpoong, in Sikkim, in November 1860, and shot one or two, but could not find where they fell, in the darkness. The late Major James Sherwill was with me at the time, and also saw them.

869. GALLINAGO SOLITARIA. Himalayan Solitary Snipe.

Dr. Jerdon says of this species that "no details of its peculiar haunts are recorded;" but he seems to have overlooked a paper by Mr. Hodgson, which will be found in the 'Gleanings in Science,' published in Calcutta (vol. iii. p. 238). I procured this species in Sikkim in October 1860, and sent Dr. Jerdon my two specimens in the flesh. I found them at the village of Seriong, on the further side of the Rummam River from Darjeeeling, on the side of a hill, in a small open swamp, surrounded on all sides by dense cover, and recollect shooting them perfectly well, as the spring which caused the swamp yielded the first watercress of the common English species that I had met with, and I can well recall my delight at having made this double discovery the same morning.

870. GALLINAGO STENURA. Pin-tailed Snipe.

In a paper elsewhere published (P. Z. S. 1865, pp. 692-695) I have given some particulars of the occurrence of this Snipe about Barrackpore, where it is very plentiful, more so than the next species, arriving in September, and being replaced by that about the end of October or beginning of November. In 1864 I killed my first Pin-tailed Snipe, on the 27th September, which is rather a late average date; but this species appears to have been replaced almost entirely by the next by the 17th November. A fine specimen, killed by me at Ambekanuggur, in Maunbhoom, was larger than stated by Dr. Jerdon. Its length was 13.5 in. from the tip of the bill to the end of the middle toe. The bill was 2.75 in., and its weight was over four ounces.

In Moulmein I found that Snipe appeared very much earlier than in Lower Bengal; and on 22nd August, 1865, I note that "an officer of the 9th Madras Native Infantry went out to-day and killed seven or eight couple, which I did not get an oppor-

tunity of examining." On 17th October of the same year I note that an officer of the same regiment "shot three, all of which were Common Snipe in bad condition; but those killed lately by Colonel Brown at Martaban were all Pin-tailed; of these I examined seven or eight couple; and seven more killed the next day at Zwagaben plain were also Pin-tailed;" so that the conclusion we would draw from this seems to be that the present species comes first to India but last to Burmah; to settle this point, however, in a more satisfactory way can only be done by a further series of accurate notes taken two or three years in succession by some competent naturalist residing on the spot. Zwagaben is about twenty-five miles distant from Moulmein in a northerly or north-westerly direction (*cf.* P.Z.S. 1866, p. 2).

871. *GALLINAGO SCOLOPACINUS*. Common Snipe.

I procured this species abundantly both at Barrackpore and in the Maunbhoom district in 1864. At the former place I one day killed three flying, at one shot, when out shooting against some other officers, and thus made the best bag. A "wisp" of six rose suddenly, and I fired into "the brown" of them. In the neighbourhood of Julpigoorie I have noticed that, in April and May, when the sun begins to put forth his power, this species leaves the swampy ground and takes to high and grass-covered jungle, as if seeking the shade afforded by the bushes. Colonel Drury tells me that in the Gorruckpore district he has frequently found Snipe in high sugar-canes and "rehr dall" jungle, neither of which grow in swampy ground.

Dr. Jerdon says that "Snipe always rise with a piping call"; but, although they do so generally, I am quite sure that I have frequently flushed them without hearing any note uttered. The difference between this and the preceding species is not recognized by most sportsmen in India.

The Burmese call both the Snipe and Goatsucker "Mye-wote"—from their habit of dwelling on the earth, according to Dr. Mason, in his work on Burmah.

872. *GALLINAGO GALLINULA*. Jack Snipe.

First noticed by me on the 17th November in 1864, at Bar-

rackpore, where it occurs frequently sometimes, sometimes rarely. I have seen it in most abundance in a jheel at Berhampore, near Moorshedabad; but the species seems most erratic in its wanderings, and takes to certain spots where one is sure to come across them year after year, while it entirely avoids just as likely-looking ground within a short distance.

873. *RHYNCHÆA BENGALENSIS*. Painted Snipe.³

A common bird in some parts of India. I noticed it in the neighbourhood of Barrackpore in the cold weather of 1864 (*cf.* P. Z. S. 1865, p. 694), and in Maunbhoom in March of the same year, and find that I have noted that the last examples were probably breeding, although flushed in dry, bush-covered jungle, away from water. It seems to me that this bird in its habits is much more nearly allied to the Rails than to the Snipes. It is a very easy bird to shoot, from its slow and steady flight, but is frequently missed by the impatient "griff.", who will not take time enough over his shot, and when bagged is brought home in great triumph, as it is regarded by such as a most wonderful Snipe!

877. *NUMENIUS ARQUATA**. Curlew.

Either this or the Whimbrel (*N. phæopus*) was observed by me in great abundance about Moulmein, in Burmah, in 1865, at the beginning of the cold weather. They were so wild, I could not secure a single specimen.

879. *IBIDORHYNCHUS STRUTHERSI*. Red-billed Curlew.

To the best of my recollection, I have seen this species in the same spot in Sikkim as mentioned by Dr. Jerdon—the banks of the Great Rungeet River, distant twelve miles from Darjeeling†.

* [*N. lineatus*, Cuv. *vide* Blyth, Ibis, 1867, pp. 167, 168.—Ed.]

† [We take this opportunity of mentioning that in 'The Field' newspaper for Sept. 28, 1867, in an article entitled "Two Days on the Kirghis Steppes, by Count Alexis Tolstoy," there appeared the following statement in reference to the southern part of the province of Orenbourg, on the banks of the river Oural:—"Steppe curlews strutted on the road, with red beaks and red legs, called magpies from the colour of their plumage."

Mr. Gurney was kind enough to call our attention to the passage, and

892. *ACTITIS OCHROPUS*. Green Sandpiper.

A very abundant bird in India, and found almost everywhere. I have shot it several times at Barrackpore and Julpigoorie in Bengal, and at Umballah, whence I have noted a specimen which was killed on the 30th of October 1866, and measured:—Length 9·5; wing 5·625; tail 2·5; tarsus 1·375; spread of foot 1·625; extent 17·5; bill, from front 1·375, from gape 1·5.

893. *ACTITIS HYPOLEUCUS*. Common Sandpiper.

Not so common as the preceding species. A specimen killed at Umballah, October 30, 1866, is in length 7·625; wing 4·25; tail 2·125; tarsus ·9375; spread of foot, including hind toe, 1·25; bill, from front ·9375, from gape 1; extent 13.

894. *TOTANUS GLOTTIS*. Greenshanks.898. *HIMANTOPUS CANDIDUS*. Stilt.

Both these species are noted by the late Dr. Scott as having been procured by him at Umballah, and the specimens sent to the Natural-History Society of Montrose.

900. *METOPIDIUS INDICUS*. Bronze-winged Jacana.

Procured by me in the Maunbhoom district in 1864, where I found it inhabiting a small tank near a village. It was abundant also about Julpigoorie.

901. *HYDROPHASIANUS CHIRURGUS*. Pheasant-tailed Jacana.

Noticed by me abundantly in a "jheel" at Rungpore, and also, to the best of my recollection, at Berhampore, near Moorshedabad—both in Bengal.

902. *PORPHYRIO POLIOCEPHALUS*. Purple Coot.

Procured by me at the Burthee bheel, a large piece of water to the north-east of Barrackpore, when I first went out to India in 1858. Since then I have frequently met with this species in Bengal.

has suggested that the birds indicated were of the species mentioned in the text. If so, its range is much more westward than has been hitherto thought.—ED.]

903. *FULICA ATRA*. Bald Coot.

This species is the "Tildoobee" of my native Hindoostanee servants, whose knowledge of ornithology, however, is very limited. I procured it at Ambekanuggur, in Maunbhoom, in 1865. A specimen at Umballah, on November 3, 1866, measured as follows:—Length 16; wings 7·5; tail 2·25; tarsus 2·25; middle toe and claw 3·5; irides purple-red, hardly "bloodred" as stated by Jerdon. I have seen this species in the tanks at Umballah, in the "Phool bagh" (literally "garden of flowers").

915. *LEPTOPTILUS ARGALA*. Gigantic Stork.

This bird, well known as the "Adjutant," is common throughout Calcutta and Lower Bengal generally; and I find that I had noted regarding it that it roosts in company on trees, and every evening there is great squabbling and clattering of beaks for the best places, which generally results in the weakest birds being obliged to betake themselves elsewhere. They do not appear to like roosting on buildings, though frequently seen on them during the day. The quick chattering noise caused by clapping both mandibles together is not at all unlike the sound of "water flowing from a narrow-necked bottle," though the idea is so ridiculed by Dr. Jerdon; and it is the only sound to which they appear capable of giving utterance. The pouch can evidently be dilated or contracted at the pleasure of the bird, and in birds of the preceding year is very small. In May their legs are pure white in colour, and appear to be covered with a loose skin which is partially shredding off. Dated "Fort William, May 1865," when I was an inmate of the Hospital there.

The nest of this species has been observed in India by a near relative of my own, Lieut.-Col. Charles Drury, of the Bengal Staff Corps. It contained two young ones, and was found by him at Munsoor Ghaut, (north of the Gorruckpore district, but not in the terai), on the high bank, near a stream, on or about the 15th of December 1861. The old birds were put off the nest, which was in a semul or cotton-tree; and a shot fired into the tree made the young birds, which were fully fledged, come out and sit on one of the boughs, whence one was bagged by

another shot. I have already recorded (P. Z. S. 1866, p. 3) my ineffectual attempts to procure the egg of this species, and to see its nest; and the above is the only instance I know in which the bird has been known to breed in India proper, besides that mentioned by Dr. Jerdon on Mr. Frith's authority.

916. *LEPTOPTILUS JAVANICUS*. Hair-crested Stork.

Observed by me frequently in 1865 in Burmah (*cf.* P. Z. S. 1867, p. 762), where it is called the Javan Adjutant.

917. *MYCTERIA AUSTRALIS*. Black-necked Stork or Jahin-Stork.

I noticed this species at the same time on my trip down the Thatone Creek, in Burmah, on the 4th of October 1865 (*cf.* P. Z. S. *loc. cit.*).

920. *CICONIA LEUCOCEPHALA*. White-necked Stork.

Procured by me at Poncha, in Maunbhoom, in February 1865.

923. *ARDEA CINEREA*. Blue Heron.

Apparently commonly distributed throughout India; and I have met with it abundantly, especially about Julpigoorie and Barrackpore, in Lower Bengal. It also occurs about Umballah, as I learned from the late Dr. Scott.

924. *ARDEA PURPUREA*. Purple Heron.

Perhaps equally common in its distribution as the previous species. I have killed it on the Ganges at Caragola Ghaut, about Maldah, and the saltwater lake close to Calcutta.

925. *HERODIAS ALBA*. Large Egret.

Not uncommon over the whole of Lower Bengal. This and other "Paddy-Birds" (as they are generally called by English sportsmen) are by the natives all called "Bōglă," not "bagla" as stated by Dr. Jerdon.

927. *HERODIAS GARZETTA*. Little Egret.

Equally common as the last species, and, like it, breeds in company on trees in or near some native village. I noticed both species in Burmah in 1865.

929. *BUPHUS COROMANDUS*. Cattle-Egret.

Abundant in the Maunbhoom district, and doubtless else-

where, but is so commonly mixed up with other kinds of Egret that I regret that I have hitherto considered this group to be too commonly distributed to make any observations on them, an error which I hope to rectify by further research. "O! it is only a 'Paddy-bird,'" is an exclamation too frequently used in India; and I hope hereafter to be able to pay more attention than I have hitherto done to this much-neglected group.

930. ARDEOLA LEUCOPTERA*. Pond-Heron.

This is *par excellence* the "Paddy-bird" of Europeans in India, and to it more especially the above remarks apply; for it is the very commonest of common birds in India: not a pond can be seen which does not contain one or two; but I never yet came across its nest, although doubtless where they do occur they are common enough.

936. BOTAURUS STELLARIS. Bittern.

I have procured this well-known bird, when out with Dr. Jerdon, in the neighbourhood of Caragola Ghaut, on the Ganges, and also near Julpigoorie; but it is nowhere very common. I cannot say that I ever tried this species on the table, although he says it is excellent eating; but brother officers have told me it was just the contrary. As our ancestors liked it, I fancy that the time of year when killed, or perhaps the tropical climate of Bengal, may perhaps account for its being considered disagreeable by some.

937. NYCTICORAX GRISEUS. Night-Heron.

This bird is very common in the Maunbhoom district, and about Julpigoorie in the district of Rungpore. The young of the year differs very much from the old bird, and is not sufficiently well discriminated by Dr. Jerdon. Its cry is loud and peculiar.

938. TANTALUS LEUCOCEPHALUS. Pelican-Ibis.

Found in immense numbers about Moulmein, in Burmah, as described more fully below.

940. ANASTOMUS OSCITANS. Shell-Ibis.

I only met with this species on one occasion, of which I have

* [Potius *A. grayi*. Cf. Ibis, 1867, pp. 172, 173.—ED.]

elsewhere made mention (P. Z. S. 1865, p. 692); so that its habitat is probably somewhat restricted.

941. THRESCIORNIS MELANOCEPHALUS. White Ibis.

I saw this bird at Julpigoorie in 1860; and again at Beera-chalee, Maunbhoom, on the 24th of March 1865, I observed four, which had probably come there to breed. The dimensions given are those of one of these. I procured a specimen in Burmah, on the Thatone creek near Moulmein, on the 4th of October 1865. It was feeding on a sandbank in the middle of the river, together with a number of Pelicans of different species, and was the only one of the species I ever came across there. Length 28; wing 14; bill, from front nearly 7; tarsus 4; middle toe to end of claw 4.

It was a sight really worth seeing, especially for an ornithologist, on this trip down the Thatone Creek. For miles the water was literally white with Pelicans, which were making the most of the ebb-tide:—some fishing in line, and thus driving their finny prey into a corner where it might be devoured at leisure; others, on their own account, filling their pouch with amazing rapidity; while along the banks, drawn up in single file, like a company of infantry, at equal distances from each other, were numbers of the Pelican-Ibis (*Tantalus leucocephalus*), each with its open beak immersed in the water, patiently waiting to snap up any unwary fish that, frightened by the Pelicans in mid-stream, might happen to run against it. The creek appears to swarm with various fish, which, I am told, come up from the sea every cold season for the sake of depositing their spawn amongst the standing paddy in the plains; and those then going down were probably the young of the year. The bushes on either bank were filled with the common Paddy-bird (*Ardeola leucoptera*), while here and there an occasional Black-headed Kingfisher (*Halcyon atricapillus*) dashed across the stream. The bare boughs of the high trees which bordered this creek were covered with Pelicans and *Tantali*—of the latter, both half-grown young and old birds; and wheeling in air, often at a great height, might be seen the serried ranks and glistening white plumage of fresh arrivals in this, to them, magnificent land of promise. Further down the creek, towards the sea,

where sandbanks rise up here and there in mid-stream, we see other varieties of Waders, mixed up with the Pelicans and *Tantali*—troops of Egrets and Grey Herons (*Ardea cinerea*), Terns of various species seated on the mud in large troops, Sandpipers and Stints all busily at work, a single White Ibis of the present species gravely stalking about in the midst of a troop of Pelicans, Curlews in threes and fours, and an occasional Fish-Eagle (*Haliaetus leucogaster*) on some dry bough which overhangs the stream, whilst above, on the wing and mingled with screaming Terns in their flight, are numerous Kites (*Haliastur indus* and *Milvus govinda*), which help to make up the ornithological features in this animated scene.

942. GERONTICUS PAPILLOUS. Warty-headed Ibis.

This bird is better known to me by the name, usually given to it by sportsmen in India, of "Black Curlew", although of course the latter is a misnomer. I procured specimens in the Maunbhoom district at Maknu, near Ambekanuggur, on the 1st of January 1865, and recollect having observed the bird at Julpigoorie, where it was considered very fair eating, and often shot on that account.

945. ANSER CINEREUS. Grey Goose.

Tolerably common about Umballah in the cold weather, especially so in January 1866, when I tried to stalk some, but signally failed. I find that the late Dr. Scott remarks of this species that on the 3rd and 4th of March 1866 vast flocks were seen passing over Umballah, leaving for the colder lakes of Thibet. In the preceding year (1865) the rain which fell at the end of February and the beginning of March caused them to leave later in their annual migrations; and he mentions that on the 7th of March he saw two flights of Geese, and on the 8th and 9th of the same month "more ditto"; while on the 14th of March 1865 only a small flight were to be seen high in air over the racecourse. In 1864 he notices having seen Wild Geese passing north on the 28th and 29th of February; and in 1863 the dates were respectively February 27 and 28 "of Geese leaving the plains."

949. ANSER INDICUS. Bar-headed Goose.

I recollect, at Umballah in 1866, being dreadfully taken in by purchasing one of these handsome Geese from a native for the table, but found it so horribly tough that, besides losing my dinner, I lost the two rupees which I had been green enough to pay for it. They occur in large numbers around Umballah, and are captured by the natives, who manage to delude the European inhabitants of that Station into buying them for the table.

951. NETTAPUS COROMANDELIANUS. White-bodied Goose-Teal.

This is invariably called the "Cotton-Teal" by sportsmen in India, where it is (in Lower Bengal and Maunbhoom more especially) very abundant, and has many a time given me not only a good day's sport, but a good addition to the kitchen. I have seen this species breeding in trees in the Maldah and Purneah districts, but never actually took a nest.

952. DENDROCYGNA AUSUREE*. Whistling Teal.

This and the Cotton-Teal are by far the most numerous of the Duck-tribe in the tanks of the Maunbhoom district, which, indeed, from its naturally dry climate, does not attract any other kinds; but here two species are almost invariably found associated together, though in separate flocks, on the tanks near which the villages are usually built, and where in addition a Snipe or two may be picked up by walking along the edge. A very fair bag may be made, as both these species are very loth to quit the water, and, when they do fly, may be easily marked down on the nearest piece of water, and then driven backwards and forwards between it and their original tank, giving plenty of chances to a slow shot.

I believe that both these birds breed in the Maunbhoom district, although I have never been lucky enough to find their nests.

954. CASARCA RUTILA. Ruddy Sheldrake.

The "Brahminy Duck," as it is commonly called, is in habits

* [Potius *D. arcuata*. Cf. Ibis, 1867, p. 175.—ED.]

much more of a Goose than a Duck. Many a time have I tried to stalk a pair of these birds on the sandbanks of the Teesta River, at Julpigoorie; but never could I manage to get within shot, as they are very wary, and give the unfortunate "griff." many a weary and useless trudge under a broiling sun.

957. SPATULA CLYPEATA. Shoveller.

Shot near Umballah in January 1866, whence it is also recorded by the late Dr. Scott as having been sent by him to the Montrose Museum. I have also procured this well-known Duck at Julpigoorie and near Barrackpore.

958. ANAS BOSCHAS. Mallard.

Common about Umballah in the cold weather, but is said not to occur in Lower Bengal (*cf.* Ibis, 1867, p. 176).

959. ANAS PÆCILORHYNCHA. Spotted-billed Duck.

I have met with this fine bird only at Julpigoorie, on the river Teesta, in 1859, and in the Maunbhoom district in 1864. It is never seen in flocks, but generally in pairs, and is not at all a common species.

961. CHAULELASMUS STREPERUS. Gadwall.

Of common occurrence near Julpigoorie, but not so often seen in other parts of Lower Bengal.

962. DAFILA ACUTA. Pintail Duck.

Abundant about Umballah, but not observed in Lower Bengal.

963. MARECA PENELOPE. Widgeon.

964. QUERQUEDULA CRECCA. Common Teal.

Both these species are common about Umballah. The latter is occasionally met with in Maunbhoom, but not so abundant there as *Q. ciria*.

967. BRANTA RUFINA. Red-crested Pochard.

Newly caught specimens were brought into Umballah for sale from Kurnaul in January 1866.

972. MERGUS CASTOR. Merganser.

I have shot specimens of this species on the Great Rungeet

River beyond Darjeeling, taking it for a Duck until I knew better.

975. *PODICEPS PHILIPPENSIS*. Little Grebe.

Mentioned by the late Dr. Scott as having been presented to the Montrose Museum, and procured by him from the river Jumna, near the Sewalik Hills of the North-west Provinces of India. The species is abundant in Maunbhoom.

985. *SEENA AURANTIA*. Large River-Tern.

Umballah, Nov. 15, 1866. Length 17; wing 10·25; tail 7·75; tarsus ·75; spread of foot 1·375; bill, from front 1·5, from gape 2·25; extent 32·75 inches. The young (?) bird has a good deal of "pepper-and-salt" grey mixed on the head instead of pure black as in the adult, and dark wavy edgings to the feathers of the upper part. The bill and legs are of a paler orange-yellow.

While on the subject of Terns I may mention that I procured a species resembling *S. javanica*, which, from my description, was apparently unknown to Dr. Jerdon, and which I characterized as being, perhaps, his

988. *STERNULA MINUTA*. Little Tern.

Should it, however, be a new species, I would propose for it the name *S. JERDONI*, although perhaps it may be *S. orientalis*, Licht., or that mentioned by Mr. Gould (P. Z. S. 1855, p. 50). It agrees tolerably well with Dr. Jerdon's description of *S. minuta*; but all the dimensions are much larger. I procured this specimen in Burmah at Thatong, near Moulmein, but on the Martaban side of the river, on 1st October, 1865. Its dimensions were as follows:—Length 13 inches; wing 10; tail 4·375, the outer tail-feathers exceeding the rest by 1 inch; bill, from front 1·62; tarsus ·75; irides deep brown, nearly black; wing extending ·75 inch beyond tail. This species is found in considerable numbers on the Thatong creek; and some (probably adult birds) have the head pure black. In the present specimen it is pearly grey, slightly tinged only with black, which becomes more conspicuous on the nape, and extends as a black line across the eye and ear-coverts. The bill is yellow, tipped with black, and the feet a deep orange, with black claws. After reading my

MS. description of this bird, Dr. Jerdon told me it was allied to *S. javanica* but was utterly unknown to him.

Another species of Tern procured in Burmah, also near Thotong, is unknown to me; and as I am unable to refer it correctly to any known species, I provisionally will assign to it the name of

STERNA INNOTATA, sp. n.

Its position is somewhere between the genera *Gelochelidon* and *Onychoprion*, as characterized by Dr. Jerdon. Its specific characters are as follows:—Bill black, feet dull dark red; tail not forked, but nearly square in flight; wings long, and exceeding the tail by 2 inches; forehead white; head and nape brown, slightly mixed with white; a white line extends from the base of the bill under the eye to behind the ear-coverts. The under parts are pure white, the back and tail-coverts being a light grey colour, which is also the colour of the tail, but it is tipped with brown; the scapulars are grey, also tipped with brown; the primaries are white, with brown on either side of the shafts, the tips tinted with the same colour. The outermost part of the inner webs of the secondary quills are pale grey; and the tertials are brownish-grey, with white shafts, and hoary or pearl-grey on their outer webs. The toes are only partially webbed. The irides dark brown. Dimensions as follows:—Length 9·5 inches, wing 8·4, tail 3, tarsus ·8125, bill, from front, 1·125. This species was procured on October 4th, 1865, on the Thatong creek, not far from the sea, and within tidal influence. I believe that Dr. Jerdon saw my MS. account of this species in 1866, but did not at the time refer it to any known species.

991. ONYCHOPRION MELANAUCHEN. Black-naped Tern.

Occurred to me in the Andaman Islands (*cf.* P. Z. S. 1866, p. 556; Ibis, 1867, p. 334).

992. ONYCHOPRION ANÆSTHETUS. Brown-winged Tern.

On the 8th of June 1865, in lat. N. 15° 50', long. E. 92° 25', I noticed that a Tern or species of *Prion* was seen skimming over the waves, which was perhaps this species. This was in the bay of Bengal, on my voyage from Calcutta to the Andaman Islands.

994. *ANOUS TENUIROSTRIS* (Temm.). White-headed Noddy. On the same voyage I noticed, on June 3, 1865, that a specimen of this species came on board the brig I was then in, and settled on this fore-castle, but was too wary to be caught, although its leg had previously been broken. I fired at it, and, unluckily, it just managed to fall overboard. It may possibly have been *A. STOLIDUS*; but the tail-plumage was much abraded, and the white forehead distinctly visible (*cf.* Ibis 1867, p. 334).

995. *RHYNCHOPS ALBICOLLIS*. Indian Skimmer.

I recollect noticing several of these peculiar birds when travelling down the river Ganges from Allahabad to Rajmahal by steamer in 1859, and subsequently on the Teesta River at Julpi-gorie in 1860. It was often a puzzle to me as to the use of its peculiar bill; and I much doubt if that question has yet been satisfactorily settled.

996. *PHAETON RUBRICAUDA*. Red-tailed Tropic-bird.

Noticed by me on the voyage to the Andamans in 1865, but no specimens procured.

998. *SULA FIBER*. Booby.

On the same occasion I noticed, on the 3rd of June 1865, that this species is numerous in the Bay of Bengal. They fly low and very fast, skimming along the surface of the waves, apparently on the look-out for flying fish, which are also numerous, and pay no attention to the vessel; and on the 8th of the same month I noticed a large, pure white bird, which was probably a *Sula piscator*, the White Booby, which was seen high in the air at some distance from the vessel. At the same time there was a rudely constructed towing-net overboard bringing up plenty of sea-lice, and probably a species of *Physalia*, consisting of a triangular bladder which supports a body of a deep blue colour, and expands into tentacles with yellow tips. This, when seen floating in the water, is a most beautiful object, much more like a flower than a living animal.

1000. *ATTAGEN AQUILUS*. Frigate-bird.

All I have got to say of this species is, that Dr. Jerdon is evidently in error when he records this as figured at pl. 71 of

Gould's 'Birds of Australia'; for that plate represents *Phalacrocorax punctatus*; and although pl. 72 contains a figure of *Attagen ariel*, it is evidently not the same bird as this species.

Of the Pelican family it is not my intention to treat here, as, although I made numerous notes on the species found in Burmah, they have all been placed at the disposal of Mr. P. L. Selater, the zealous Secretary of the Zoological Society, and, I doubt not, will be duly treated by him in the memoir on the genus which he has in preparation.

Leaving this question, then, in his hands, I must now bring to a conclusion these notes on Indian birds from the pen of a "wild worker in the woods," hoping that, if hereafter they meet with favour from the readers of 'The Ibis,' I may thereby be encouraged, not only to continue my labours in the sunny land of India on my return thither, but also to obtain yet further opportunities of continuing my collections in the pleasant land of Burmah, endeavouring thoroughly to elucidate its at present comparatively little-known Ornithology and Zoology generally.

South Penge Park,
July 18, 1868.

XXXII.—On some of the Birds of Prey of Central Bulgaria.

By C. FARMAN, C.E.*

IN laying the following notes before the readers of 'The Ibis,' I would merely remark, by way of preface, that a person so young in the study of ornithology can hardly be expected to be able to say much, if anything, that is new on the subject. Still, as the ornithology of Turkey has not received any very great amount of attention, and my opportunities of observing such birds as frequent a particular part of that country have been great, I have thought that a list of the birds of prey to be found in Central Bulgaria, with some few observations upon them, might be both interesting and useful.

The tract of country to which my observations have been confined is that district of Bulgaria which lies between the Danube, at Rustchuk, and Varna, on the Black Sea, in length about one

* [Kindly communicated by Mr. H. E. Dresser.—Ed.]